

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB2004/052530

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 G09G3/20 G02F1/1335

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC, 7 G09G G02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO- Internal, WPI Data, INSPEC, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/047822 A1 (SENDA KOUJI ET AL) 25 April 2002 (2002-04-25)	1, 2, 5-7, 9
Y	paragraphs [0151], [0233] - [0238]; figures 19, 20	5, 8
X	EP 0 261 898 A (THORN EMI PLC) 30 March 1988 (1988-03-30) column 4, lines 1-12; figures 1-5	1, 5-7, 9
X	US 2003/016318 A1 (LIANG WEI-CHEN ET AL) 23 January 2003 (2003-01-23) paragraph [0021]; figures 3, 4	1, 6, 9
Y	WO 03/061007 A (KONINKLIJKE PHILIPS ELECTRONICS N.V.; DE ZWART, SIEBE, T.; VAN DIJK, ROY) 24 July 2003 (2003-07-24) figures 2-5	5

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

25 August 2005

Date of mailing of the international search report

02.11.2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Gundlach, H

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/IB2004/052530

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
Y	US 3 989 357 A (KALT ET AL) 2 November 1976 (1976-11-02) cited in the application figure 1 -----	5
Y	US 5 519 565 A (KALT ET AL) 21 May 1996 (1996-05-21) cited in the application figures 1,26 -----	5
A	US 5 208 689 A (HARTMANN ET AL) 4 May 1993 (1993-05-04) cited in the application claim 2 -----	1
Y	PATENT ABSTRACTS OF JAPAN vol. 011, no. 293 (P-619), 22 September 1987 (1987-09-22) & JP 62 089021 A (FUJITSU LTD), 23 April 1987 (1987-04-23) abstract -----	8
Y	US 6 100 861 A (COHEN ET AL) 8 August 2000 (2000-08-08) column 5, line 7 - line 17; figures 5a-f -----	8
T	KRUSIUS J P ET AL: "Seamless tiling of AMLCDs for large area displays" 2002 SID INTERNATIONAL SYMPOSIUM. DIGEST OF TECHNICAL PAPERS. VOL.33 SOC. INF. DISPLAY SAN JOSE, CA, USA, vol. 1, May 2002 (2002-05), pages 78-81 vol. 1, XP007007912 page 79, right-hand column, line 10 - page 80, left-hand column, line 5 -----	8

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/052530

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2002047822	AI	25-04-2002	JP 2002333870 A 22-11-2002
		CN 1351323 A , C 29-05-2002	
		CN 1612195 A 04-05-2005	
		TW 538398 B 21-06-2003	
		CN 1394320 A 29-01-2003	
		WO 0235507 AI 02-05-2002	
		JP 2002251160 A 06-09-2002	
		TW 511292 B 21-11-2002	
		US 2002196208 AI 26-12-2002	
EP 0261898	A	30-03-1988	AT 88020 T 15-04-1993
		DE 3785282 DI 13-05-1993	
		DE 3785282 T2 21-10-1993	
		EP 0261898 A2 30-03-1988	
		ES 2039448 T3 01-10-1993	
		JP 6Q64421 B 22-08-1994	
		JP 63108394 A 13-05-1988	
		US 5124695 A 23-06-1992	
US 2003016318	AI	23-01-2003	NONE
WO 03061007	A	24-07-2003	AU 2002367045 AI 30-07-2003
		AU 2003201064 AI 30-07-2003	
		CN 1615505 A 11-05-2005	
		EP 1472735 AI 03-11-2004	
		EP 1472676 AI 03-11-2004	
		WO 03061007 AI 24-07-2003	
		WO 03060865 AI 24-07-2003	
		JP 2005515503 T 26-05-2005	
		JP 2005515507 T 26-05-2005	
		TW 584299 Y 11-04-2004	
		US 2005093848 AI 05-05-2005	
		US 2004263076 AI 30-12-2004	
US 3989357	A	02-11-1976	DE 2623577 AI 16-12-1976
		JP 1075700 C 25-12-1981	
		JP 51145296 A 14-12-1976	
		JP 56011959 B 18-03-1981	
		JP 1064398 C 22-09-1981	
		JP 52002471 A 10-01-1977	
		JP 56005346 B 04-02-1981	
		US 3897997 A 05-08-1975	
US 5519565	A	21-05-1996	US 5231559 A 27-07-1993
		US 6057814 A 02-05-2000	
		US 6317108 BI 13-11-2001	
		US 5638084 A 10-06-1997	
		US 6771237 BI 03-08-2004	
		EP 0646269 AI 05-04-1995	
		WO 9324922 AI 09-12-1993	
US 5208689	A	04-05-1993	NL 9002011 A 01-04-1992
		DE 69110387 DI 20-07-1995	
		DE 69110387 T2 22-02-1996	
		EP 0478043 AI 01-04-1992	
		JP 3022646 B2 21-03-2000	
		JP 4247431 A 03-09-1992	

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/IB2004/052530

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons

- 1 ☐ J Claims Nos  
because they relate to subject matter not required to be searched by this Authority, namely
- 2 ☐ J Claims Nos  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically.
- 3 ☐ r Claims NOS  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a)

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application as follows

see additional sheet

- 1 ☒ I As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims
- 2 ☐ I As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee
- 3 ☐ I As only some of the required additional search fees were timely paid by the applicant, this International Search Report  
☐ Envoies des Droits de Recherche des Demandes pour lesquelles les frais de Recherche n'ont pas été payés. Recherche des Demandes Nos 6
- 4 ☐ No required additional search fees were timely paid by the applicant. Consequently this International Search Report is restricted to the invention first mentioned in the claims it is covered by claims Nos

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest
- ☐ No protest accompanied the payment of additional search fees

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7,9

Claim 3:

A display panel comprising pixels with sub-pixels, at least two non-adjacent sub-pixel elements being coupled to receive a same driving signal, the cumulated sizes of the of the sub-pixels forming a series according to a power law of its ordinal.

NB:

Document D1 (US 2002/047822) discloses a display panel comprising a plurality of pixels, each comprising a plurality of sub-pixel elements occupying respective continuous sub-pixel element areas within a pixel area, at least two non-adjacent sub-pixel elements being coupled to receive substantially a same driving signal (see "subpixel electrode portions" "M2a" ... "M4a" and "connecting electrodes" "M2c" ... "M4c" in D1, Fig. 20 & par. 233 - 238). Hence, a device comprising all the features specified in claim 1 can be found in D1.

Document D1 (US 2002/047822) discloses also the features specified in claims 2, 6 and 9. Moreover, this document in combination with common knowledge renders obvious claims 5 and 7.

Therefore, claims 1, 2, 6 and 9 are not new (Article 33(2) PCT) and claims 5 and 7 do not involve an inventive step (Article 33(3) PCT).

---

2. claim: 8

sub-pixel's of different colours being interspersed.

---